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ABSTRACT

Nine preschool children viewed a videotaped story at regular intervals in a longitudinal study of their understanding of a televised narrative. Observations focused on children's attention to the story, their reactions during viewing, and their postviewing story reconstructions. It was found that the children sensed certain interpersonal conflicts from an early age, and that they became increasingly sensitive to conflicts embedded in the story. That a child's prior knowledge and experience with a character appeared to influence narrative comprehension was consistent with the impression that television encourages the development and perpetuation of stereotypes. Although children's knowledge from other sources was apparent, their repeated exposures to a single narrative on television did not assure a competent grasp of that narrative. The difficulties that many of the children had in reconstructing the narrative raised the issue of how television affects children's symbolic play. Specific television features that affected the children's narrative recall were the appearance of characters in closeup shots, increased volume, decreased pace of the dialogue, and repetition of statements throughout the narrative. (RL)

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THE DEVELOPMENT OF PRESCHOOLERS' APPREHENSION OF A TELEVISED NARRATIVE

by

Paula Gillen Wilder

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The Development of Preschoolers' Apprehension of a Televised Narrative

Paula Gillen Wilder

Introduction

Television provides its audience with a constant array of information. While viewers with a broad range of life experiences and a developed set of skills in interpreting the formal production features (such as zooms and cuts) have little difficulty in deriving meaning from what they view, it remains uncertain how much and what sort of meaning young children, who have neither the worldly experience nor an established set of medium skills, are able to derive from television viewing.

Since television content is strewn with narrative, apprehension of televised narrative is a particularly central issue in children's mastery of the medium. Presented with a complex set of images children must make sense of a range of information such as the interrelationships of characters, links between episodes and specific dialogue. In view of these considerations, two questions immediately suggest themselves. How much of this narrative do they understand? And how is this understanding influenced by production techniques? To approach this set of issues we have chosen to look at children's responses and recall of the narrative content of one story and to analyze the narrative and television features which seem to underlie their knowledge of this content.

A regular feature of Sesame Street, "The Story of the Boy Who Cried Monster," was chosen as the focus of this discussion for several reasons. First, it held the attention of all the children studied across a wide range of ages. With this variable of attention, held constant, we were in a position to examine children's understanding with greater confidence. As all the children watched Sesame Street regularly, it was also a story with which they had about equal familiarity. Last, because we were interested in children's understanding of narrative complexity, we wanted to select a well-formed story which consisted of such narrative components as characters, and developed conflicts among the antagonists and protagonists.

Included in the investigation which follows will be a description of the story in terms of narrative complexity; the ways in which the story is mediated through the particulars of its television production; and children's possible strategies for processing a televised narrative. Then, preschoolers' experience with the story at four different ages will be explored in terms of their attention and reactions, and their post-viewing story reconstructions. In our concluding remarks we will attempt to specify the ways in which the study has informed us about children's story- and medium-specific experience and skills at the preschool age.

The Story of the Boy Who Cried Monster

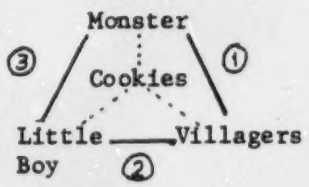
Analogous to the well-known tale of the boy who cried wolf, the story uses puppets to tell of a monster who steals cookies from villagers. At the beginning the villagers assemble and announce that a monster has been stealing their cookies. The chief representative, a woman villager, suggests that if anyone sees the monster, he should cry out for help. A little boy listens attentively to her and says, as the villagers return to their homes, that he thinks it might be fun to have everyone come running to him. Twice he cries out and twice the villagers scurry to his aid. Each time they express their agitation with him and tell him not to do it again. As the little boy prepares to yell the third time, undaunted by their warnings, the monster actually does arrive on the scene. By this time, however, the villagers are wise to the little boy's ruse and indicate that they are not going to be fooled again. Regretting that he played such a trick ("Oh, why did I play that trick on everybody? Now they don't believe the monster is here."), the little boy looks on as the monster enthusiastically eats his cookies. At the very end of the story the monster plants a big kiss on the cheek of the little boy, as if to thank him benevolently for the cookie feast. The story concludes with a view of the narrator saying, "After that, the boy was never quite so mischieveous again."

Features of Narrative Complexity

Conflicts

In addition to processing a sequence of events and appreciating the relation between the initial premise and the eventual outcome of the story, children must deal with a series of conflicts embedded in the story. The broad texture of the narrative is formed by three central conflicts linked in a triangular fashion. As depicted in the figure below, each central party (the monster, the little boy, and the chief villager) form a corner of that triangle of conflict.

The initial conflict is between the villagers and the monster; the story in fact begins with a statement that the villagers "are worried about a certain monster who has been stealing (their) cookies." When the little boy decides to get everyone's attention by calling for help, the second conflict is established, and the confrontation between the little boy and the monster, the last conflict in the story, completes the triangle. Each of the three central parties has a single interest—the cookies; and two of the conflicts, that between the monster and the boy and between the monster and the villagers, are centered specifically on their possession.



These three conflicts, all initiated within the confines of the story, yield various outcomes. The existing conflict between the monster and the villagers is never resolved. The conflict initiated by the little boy's trickery is resolved by the villagers when they catch on to his ruse. The final conflict, that between the monster and the little boy ends with the monster's eating the cookies and then planting a kiss on the little boy's cheek.

Going Beyond the Surface Actions

Mature viewers are able to focus on an interpretation that goes beyond the actual narrative line--the consequences of lying. They have learned that stories often provide morals and have grown to expect this result from the story medium. Young children, however, lack accumulated experience with stories and consequently are more likely to draw their conceptions of the story's meaning directly from the surface actions viewed.

Psychological States

In addition to its complex conflicts, the story provides children with a range of additional challenges. The major characters, for example, are intertwined by their actions and psychological states. To determine how a character feels or to predict how he might act, children must sometimes rely on subtle visual and auditory cues. The persona presented by the appearance, actions, tonality and language of the Cookie Monster, for instance, presents dual characteristics of fearsomeness and affability. Viewers can also assess such visual cues as the boy's smiles and sheepish looks as well as his body quaking at the monster's arrival. More often, however, information regarding psychological states is derived from dialogue: the villagers' worry about the Monster ("We are worried about a certain monster," "certainly am worried," "We're worried about a monster"); their annoyance with the little boy ("You mean, we all came running for nothing?" "Well, that does it. We asked you not to do it again but you did it anyway." "Well, you aren't going to fool us again."); the little boy's delight in calling for help ("Wouldn't it be nifty if everybody came running here to help me?" "Hey, that was fun. In fact, it was so much fun that I think I'll try it again.").

Motivation

It thus becomes apparent that children must also derive much of their information regarding characters' motivations from the audio portion of the presentation. This audio information might present children with several difficulties, one of which is the level of sophistication of language used. As a result of their advanced language competence older viewers are more easily able to derive meaning. It is also likely that young viewers have an undeveloped understanding of the underlying reasons for character actions. In the case of this story, the actions themselves provide inadequate information for deriving the intended story.

Ambiguity of Character

Although guilty of eating others' cookies, the Cookie Monster, a

Sesame Street "regular" is generally presented as a benevolent spirit. When thrust into the role of the monster who steals villagers' cookies in this particular story, however, he takes on a more menacing role. In the script the villagers' concern about the monster is stated three separate times. In addition, his approach to the little boy is accompanied by suspenseful music. These techniques subtly transform the Cookie Monster into a somewhat more awesome character.

Features of Medium Complexity

When coupled with the requirements of understanding the rules of the television medium the task of organizing narrative information becomes even more difficult. Luckily however, for children, the production techniques brought to bear in this story are relatively straightforward. The visual treatment is displayed before the viewer in a puppet theater framework using close-up shots to focus on important actions or events. The little boy is often viewed face-on, for example, in a close-up shot. On the other hand, when the villagers are assembled they are framed together in smaller scale. Producers are also able to achieve visual emphasis by extending the length of time that a character is viewed on the screen. The villagers and the little boy take up the first two-thirds of the video space of the story, for instance, while the monster, although frequently mentioned, is not viewed until the final third. The video track for the first two-thirds of the story consists primarily of dialogue, such as the explanations for motivations described previously. The only physical movement in the first part of the story is the action of the villagers rushing to the boy's aid. The last third of the story, however, is characterized by action--the monster looms up over the boy; the monster and boy look around to see if the villagers are coming; and the monster voraciously eats the cookies.

Turning to the auditory mode, children might be so influenced by the volume or pace of the dialogue that they are unable to be sensitive to the contextual information which supports it. For example, children might hear the pronounced cries of "Help, Monster" to such a degree that the less emphasized annoyance of the villagers might play a secondary role in their story reconstructions. Repetition of statements might also be an important influence in the degree to which something is remembered. The cries of the little boy are not only emotionally charged and at high volume, they are also repeated three separate times: 1) "Monster, Help, Monster, Help, Monster"; 2) "Monster, Help, Help, Monster, Help"; and 3) "Help, Monster, Help, Help." In addition, music is used to anticipate the arrival of the monster which could be highly influential in the potency that children attribute to this segment.

Audio vs. Video Complexity

Typically the audio and video tracks of television fare clamor jointly for attention. Yet young children may have great difficulty in

processing both simultaneously. One possibility is that audio is particularly influential for young children when it is characterized by high volume, fast or slow pace, and repetition, while video influences are derived from fast action or highly familiar content. Equally possible is the suggestion that children's experience of the dual track medium is based on the relative levels of complexity in the audio and video tracks. For example, children presented with a single loud voice (Help, Monster) and a single picture of a boy crying out might be able to handle the dual modes. However, when presented with four or five people engaged in dialogue--a more complicated stimulus--children might be unable to grasp the information adequately in either mode.

When one mode is more complex for children than the other, other patterns could also develop. For example, children presented with a complicated video scene (the boy looking around and the monster eating the cookies) and a simpler audio (the boy crying for help) might focus on the visualized information, since the audio track does not need attention.

Possible Viewing Strategies

Apart from narrative- or medium-specific influences the young child might have a range of strategies for processing a story such as "The Story of the Boy Who Cried Monster." Children could simply photograph the story in their mind's eye and replay actions as they happen--scene by scene. This type of cumulative construction might be related to children's story-telling--the "And then...and then..." formula. Alternatively they could intuitively grasp that the entity called "story" consists of problems and solutions which must be identified before processing the supporting details. It is also possible that children's foremost area of interest might be content which bears some direct relation to their own lives--such as the interactions between the little boy and the reprimanding mother figure who represents the villagers. The familiarity of particular characters or their affective characteristics might be the initial influence upon which all other understanding is built. A character such as the Cookie Monster might form the core of their understanding. Once they have recognized him as the monster, they bring to their understanding the duality of characteristics associated with him. Finally, children may use a combination of strategies to aid them in their story apprehension. As children develop their narrative and medium skills, these strategies might be called upon to different degrees.

Methods

Data Base

An experimental videotape consisting of various television fare was prepared. "The Story of the Boy Who Cried Monster" (a segment 3-1/2 minutes in length) was sandwiched among a series of other segments

(e.g., commercials, cartoons, news).

Schedule of Viewings

Children were exposed to this story every nine months. As a result, longitudinal information on children's understanding of the story in question was obtained at the ages of 2 years, 6 months; 3 years, 3 months; 4 years; and 4 years, 9 months of age.

Population

Five subjects from the Project Zero Early Symbolization Project were observed from the ages of 3 to 5 years. This group was characterized as a low-viewing television group, since their television exposure was primarily limited to children's programming, particularly of an educational nature. Four subjects from the Project Zero Longitudinal Television Study were observed from the ages of 2 to 5. This group was characterized as a high-viewing group because their television exposure was not strictly limited by their parents. The total of nine subjects observed thus covers a broad range of viewing habits.

Videotapes were made of the children during their viewing of the story, and during the presentation of post-viewing tasks. The videotapes were supplemented with typewritten transcripts derived from audiotapes of each session. The transcripts and videotapes were analyzed for the attentional qualities of the child's viewing, the reactions during viewing, and the nature and substance of the child's post-viewing play.

Specific Response Measures

Attention. The quality of the child's viewing underwent special scrutiny. Specific indices of quality included the amount of time the child's eyes appeared focussed directly on the screen, the extent of movement while viewing, and inattention to other stimuli outside the television presentation itself. Levels of attention were rated as:

Intense - child shows no movement and eyes are directly on the screen at all times

High - child is engaged by segment: eyes leave screen for only brief moment

Moderate - child alternates between viewing screen and interacting with others in room; some minimal activity with toys

Low - child glances at television only briefly; experimenter must draw child's attention back to television.

Reactions during viewing. Children's emotional reactions such as evident excitement, laughter and fear, as well as their spontaneous comments, were carefully noted during the viewing. In addition, the experimenter questioned the child to elicit further information regarding his ability to anticipate and integrate events: What is going to happen next? Do you know who the monster is? Why did the little boy cry, "Monster"?

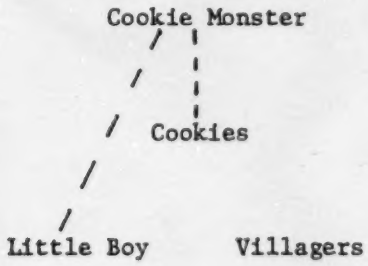
Post-viewing story reconstructions. During the post-viewing play sessions, children were presented with small toy replicas of a small bag of cookies and of the major characters in the story: the Cookie Monster, the little boy and the villagers. The experimenter provided as much encouragement as necessary to stimulate the child's symbolic play. The experimenter asked, for example, "Do you remember that story we saw today on television? Who was in that story? And what did the Cookie Monster do? Good, now let's begin at the beginning of that story and make the story just like we saw it on television."

A book of photographs of the story was also provided to the child and he was asked to tell the story as it was reflected in the pictures. In this way, children's ability to recall specific segments of action, and to integrate and anticipate events was recorded.

Findings

The findings presented here document the changes in children's story experience. At each of the four ages, their attention to the story, reactions while viewing and levels of understanding will be examined.

Pre-Conflict: The Monster Eats the Cookies (2 years, 6 months)



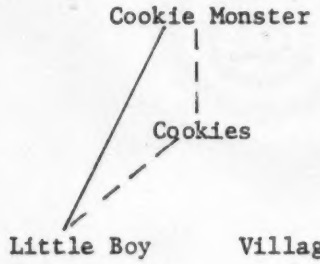
Attention. The use of puppets attracts the children initially. Judging from the levels of intensity and excitement, however, children's chief foci of interest are the little boy and the monster. In addition, they are particularly influenced by changes or extremes in volume: the little boy's cries for help and the musical prelude announcing the arrival of the monster are highly riveting. The villagers, on the other hand, are less compelling. Several children, for example, looked away briefly at the experimenter as the villagers arrive.

Reactions during viewing. Children's reactions suggest that their focus rests primarily on the little boy and the monster. For example, one child imitated the little boy and said "Help, Monster"; another responded that the monster is "eating cookies." Children find two simple actions most salient: the boy's cries for help and the monster's consumption of the cookies.

Post-viewing story reconstructions. While children focus on the boy's cries for help during the viewing, they seem to be at a pre-conflict stage in their story comprehension. One piece of evidence is that the Cookie Monster is allowed to eat his cookies in post-viewing play without any interaction with the little boy. Furthermore, when presented with replicas of the story characters children direct their attention almost exclusively to the monster and the cookies. One child simply fulfilled the experimenter's request and fed the cookies to anyone in the room who wanted them, people or puppets alike. The cookies are not perceived as the property of the little boy. Another child paged through the photographs of the story and said, "That's the Cookie Monster eating the cookies," his only spontaneous comment.

The core of the story reconstruction then revolves around the highly charged feast of cookie eating. At no time does the child of 2-1/2 ground these final actions of the story in the conflicts which precede it. Nor is the child able to link the episodes of the story in a sequential fashion.

Conflict: Monster vs. the Little Boy (3 years, 3 months)



Attention. By 3 years, 3 months, the story commands children's high attention. Children viewed quietly, with no change in facial expression. They actively ignored opportunities for play around them and blocked out environmental stimuli.

Reactions during viewing. All children acknowledged having seen this story previously. One child specified what would happen: "The monster comes out." Contrary to expectation, however, the reactions of the child during viewing do not appear qualitatively different from the 2-1/2 year old in either the intensity of reaction or amount of spontaneous commenting.

Post-viewing story reconstructions. Children are particularly skilled at recreating the cries of the little boy for help and the ravaging attack of the monster on the little boy's cookies. The arrival of the monster is central to the child's understanding of the story. In fact, in only one instance were the villagers even mentioned. When asked to recreate the story, children tend to select the Cookie Monster and the little boy and dispense with opportunities to combine the other figures central to the full trio of conflicts in the story. Relatedly, children are unable to explain the little boy's cries for help or the villagers' failure to respond to the little boy the third time he calls out. Children at this age are easily able to reconstruct the visualized actions of the monster but are unable to recall the motivations for the little boy's cries or the absence of the villagers--information presented only auditorally. Their exact reconstructions of information presented auditorally in the television story are limited to their accurate recall of the boy's cries, "Help, Monster, Help." At this age, then, the dependence on visually presented information appears to be very high. The quality of children's narrative re-tellings testifies to its power for them.

Children's abilities to establish boundaries between themselves and their story re-creations are, at best, tenuous; they easily confuse their own person with the roles they are to enact. One child appeared so involved in the demise of the little boy's cookies, for example, that he modifies the story, holding the little boy puppet as far away from the monster as possible, virtually insuring that the monster could not reach either himself or the cookies. Despite repeated attempts to have the child replay the story as it happened, he persisted in this fashion. Another child tried to avoid the situation altogether by indicating that the monster wasn't in the same room with him. Still another was so taken with the powers of the monster that he reconstructed the story of a ravaging monster and a little boy's complete passivity and helplessness, omitting the boy's actual cries for help. In general, then, children mark the "assault" of the Cookie Monster on the little boy with such vividness that they confuse their own involvement in the story with that of the little boy puppet they hold.

While children are drawn to re-create the monster's attack on the child, they continue to omit the interaction of the little boy with the villagers, information which occupies two-thirds of the video space of the story.

Conflict: Little Boy vs. Villagers (4 years)

Attention and reactions during viewing. Children's attention to the story at this age can be characterized as intense. Children frown, smile, laugh, exhibit fear and are held virtually motionless at various points in the story. It is striking that older children, though they are likely to have viewed this popular story many more times, still exhibit more fright at the sight of the relatively benign Cookie Monster than when younger. The increased fear, in spite of the greater familiarity with the friendly monster, suggests that children classify the puppet very close to the prototype monster and that they still overlook the concluding kiss.

While the older children exhibit more fear, we must also consider that they are not actually afraid. Rather they might understand that the story belongs to the genre of fearsome tales and, in compliance with their role as spectators, they act afraid. In fact, the one child who exhibited the most fear by her trembling and intense attention also smiled several times during the story--perhaps signalling her ambivalence about the Cookie Monster's fearsomeness.

Whereas previously, only blatant points of action received their attention, the child now recognizes the motivation for the little boy's actions. One child smiled when the little boy said "That was fun." Several children smiled when the little boy cried for the monster the first two times; one child, in fact, laughed out loud, apparently appreciating the trickery involved. These reactions suggest that children are beginning to understand the conflict established by the little boy's trick.

While children continue to be riveted by the appearance of the monster, two children smiled when the Cookie Monster says "Looks like you and me, kid," as he devours the cookies. The 4 year old seems able to appreciate the non-threatening and benevolent qualities of the monster and to ground the monster's activities within the broader actions of the story. By this age, children easily anticipate the actions of the little boy and the monster, suggesting an appreciation of the episodic nature of the story. One child smiled and said "He's going to do it again," nearly duplicating a phrase spoken by the little boy. Barely able to tear himself away from the viewing, another child responded to the experimenter's question about what would happen: "He's going to cry." One child smiled repeatedly when the little boy falsely cried out for help but froze when the ominous music began. When the little boy yelled monster, the child himself mouthed the word.

Post-viewing story reconstructions. The greatest leap in children's understanding takes place between the ages of 3:3 and 4:0. By 4 children have begun to master the trio of conflicts that make this story more than a simple case of monster eats boy's cookies. They understand the quality of trickery in the boy's first cries for help. One child repeated "The little boy says it was so fun I want to try it." This ability to comprehend the motivation for the little boy's action implicitly suggests that children recognize that the villagers play an important role in the story as well. Children at 4 understand the triangular structure of the story by incorporating the conflict of the child vs. villagers into the child vs.

monster conflict.

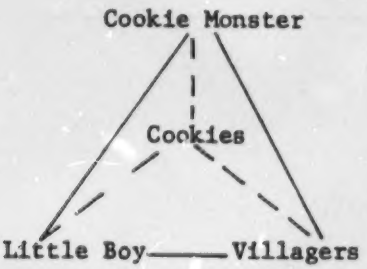
In a marked advance over previous stages, children thus begin to use auditorally-presented information to provide them with the links in the visualized narrative actions. In symbolic play one child commented when taking the role of the villagers, "We're not going to come ever after again," paralleling a comment by the chief woman villager. Taking the role of the little boy this child later said, "Well, there wasn't any monster," nearly duplicating the televised version's, "Well, actually, there isn't any monster." One child explained the villagers' absence when she responded to the experimenter's question (And does everyone come running?)---"No, remember, they said 'we're not coming running again'," relying directly on the audio segment she heard.

By this age the arrival of the Cookie Monster and the cookie consumption are apparently understood as inevitable. For example, while children are able to recall that the little boy cried for help twice prior to the monster's arrival, they do not have the little boy cry out again when the monster actually arrives.

Children now exhibit the ability to divorce themselves from the threatening qualities of the monster vs. child conflict. By 4 children no longer have as much difficulty establishing the boundary between the story as a fictional entity and their own involvement in a re-creation of it. Taking the role of the little boy, for example, one child responded, "Oh no you won't!", to the toy Cookie Monster's statement that he is going to eat the little boy's cookies. The child then laughed heartily as the toy monster ate the cookies.

While these 4 year olds are rapidly gaining levels of mastery in understanding of the story, some gaps remain. For example, 4 year olds are still rooted in the surface actions of the story. Specifically, the conclusions of their story reconstructions continue to revolve around the cookie-eating feast. No mention is made of the little boy's regrets at having played such a trick on the villagers. While the children can report on the villagers' action--they didn't come running---they don't add to their storytelling the reason underlying this absence. So while children have mastered the surface or visualized aspects of the conflict between the little boy and the villagers or are at least able to articulate them, and can incorporate auditory information, they have yet to express an understanding of the fuller meaning of the actions.

Conflict: Villagers vs. Monster (4 years, 9 months)



Attention. By the age of 5, the children have had a myriad of opportunities to view this story. While the range of emotional reactions during the actual viewing has lessened from previous ages, children's attention is still consistently high.

Reactions during viewing. By 5 years of age, the children studied may have learned that television viewing is not an active sport--one watches the screen quietly and receptively. So, while their responses to the story are solely elicited by experimenter questions, their anticipation of upcoming segments continues to accurately reflect the narrative flow. When asked why the villagers aren't coming the last time, one child responded, "Because he did it again and when the mother told him not to." Although children at this age have mastered most aspects of the story, they continue to be engaged in the various segments of the drama. One child, for instance, smiled when the little boy says "That was fun." The responses and reactions of the 4 year, 9 month old suggest his delight in knowing the story well enough to correctly predict upcoming actions.

Post-viewing story reconstructions. Once children have mastered the conflict of the monster vs. child, and have begun to understand the motivation of the little boy in relation to the villager and the subsequent reactions of the villagers to the little boy, they are able to make competent narrative reconstructions. At this age it is even apparent that the child understands that the story itself is initiated by the pre-existing conflict between the villagers and the monster. Once reconstructing the story with a high degree of accuracy is achieved, he is able to modify the story purposefully. One child, for instance, who was able to tell the story accurately, suggested another narrative conclusion. In his version the villagers arrive to help the little boy "in their backyard." In this way the child suggested that there is a final confrontation between the villagers and the monster; he implicitly indicates recognition of the underlying conflict on which the story is based (villagers vs. monster).

Also at this age, the link between behaviors and their motivation is explicitly established: characters do things for reasons which are supplied by the child. For example, one child explains the reason that the Cookie Monster kisses the little boy at the end of the story, "cause he let him have his cookies he wasn't supposed to get them." This child's statement also

suggests another important development in narrative understanding. No longer must the Cookie Monster be narrowly defined as either fearsome or friendly. At this later age, children are able to comprehend the duality of his character. In their reconstructions they are able to include a voracious monster as well as a loving one.

Limitations of the Study

The general reliability of this study can be questioned on several counts, the most important of which is the small size of the population sampled. While these children represent families of diverse backgrounds and television viewing habits, it is possible that they are not representative of preschool viewers as a whole. Nonetheless the consistency of stages experienced by these nine children in their lengthy exposure to the stimulus story suggests that the data has considerable implications.

Furthermore, the statements regarding attentional qualities of the young children lack the precision and accountability that electro-physical or eye movement response measures would have provided. In view of the study's attempt to observe the child predominantly in a natural viewing situation, these were not incorporated into the study design. Finally, it is important to consider whether young children's apprehension is better assessed by non-verbal than by verbal measures.

With these limitations in mind, we will discuss the developmental trends which emerge from the study.

Developmental Trends of Children's Experience of the Televised Story

2 Years, 6 Months

A multitude of factors might account for the fact that the Cookie Monster and his cookie eating are the central story features for the 2-1/2 year old. Children's comprehension at this age is likely to be heavily dependent on two factors: 1) their familiarity with a character; and 2) the power of a particular event such as the dramatic cookie eating. In addition, the recency of the monster's appearance might cause the children to best recall that particular image. More generally, children's cognitive and linguistic limitations affect both their grasp of the story and their ability to transmit it to others.

3 Years, 3 Months

The experience of the 3 year, 3 month old bears striking resemblance to the 2-1/2 year old in two respects. The attentional quality of both ages appears similar; children apparently note with great interest each action as it unfolds before them. They are also unable during viewing to

wager a guess as to upcoming events in the story. The inability of the 3 year, 3 month old to anticipate episodes despite his viewing of the story at least a half dozen times, suggests that the child still sees each action of a televised story as potentially new. Thus, each time children younger than 3-1/2 are confronted with a television narrative, they appear to process it as a new world of information. That is, they do not appear to have readily available schemas of previously viewed content upon which to draw. The young child, rooted in the literal and concrete nature of the moment, appears to be continually challenged by television content, while the mature viewer meets with significantly less challenge since he can rely on his schematic notions of what will occur.

Children younger than 4 also appear to be highly influenced by the drama of particular surface actions in the story--essential action markers such as the boy's cries for help and the ominous arrival of the monster in their story replayings. Such a finding suggests that very young children's general television experience is limited to instances of potent action or conflict. Before 4, children appear unable, even in a story produced especially for them, to integrate these actions into the story's context. Without weighing the significance of a single highly dramatic action against the backdrop of the story as a whole, children's recollections are likely to be simple collages of highly dramatic or familiar actions.

4 Years

To grasp the narrative implications of the story, the three points of the triangular formation--the little boy, the monster and the villagers--must be considered. By 4, both the familiarity of the story and the development of verbal skills aid children in processing the auditorally presented information. As a result an integration between the visual and the audio information is more clearly in evidence. Drawing upon both visual and audio aspects of the story's presentation, the 4 year old demonstrates another milestone in apprehending the story: his ability to repeat dialogue documents recognition of the interactions between the child and villagers. Although he now "gets in on" the joke that the boy is playing on the villagers he still does not link this to the eventual outcome of the story.

Before 4, children's reconstructions of the story focus on the conflict between the monster and the child; yet it is the older child who, while viewing, demonstrates a fear of the arrival of the monster. This counter-intuitive development presents rich opportunity for speculation. On the one hand children might, for the first time, understand the threat that monsters generally pose to children; the word "monster" probably conjures up images of fearsome looking creatures for the 4 year old that the 2-1/2 year old has not yet developed. On the other hand, children by 4 might reach a stage in their viewing in which they can recognize the moods created by a production, thus allowing them to experience a drama with a higher degree of sensitivity. In addition, 4 year olds' story involvement is enriched by an ability to interweave story components. For the first

time children are able to easily anticipate and reflect back on story events indicating a flexibility in dealing with various aspects of the story structure.

4 Years, 9 Months

The challenge posed by the story appears diminished by this age. While children have not noted all the lessons to be learned from the story, they have integrated the basic story structure and no longer appear to focus their visual and auditory energies on mastering the actions of the story. Their viewing style can now be characterized as more relaxed--they can now sit back and view the story with a sense of accomplishment. Children now address issues of supporting details in the story and add the "fine touches" to embellish their story productions.

It is possible that the level of sophistication achieved by 4 year, 9 month olds is a result of the years of repeated exposure to the story. Whether a child of this age would reach the same level of comprehension after only a few viewings provides an attractive question for further study.

Development of Children's Understandings Regarding Ambiguous Characters

Understanding television characters is perhaps the single largest task that preschoolers must master. While they are daily informed about possible human actions and personalities in their own lives, they are often presented with a new and startling set of behaviors when viewing television.

Considering the child who is nearly 5, we can now trace the development of understanding of the Cookie Monster. Recall, for example, that after feasting on the little boy's cookies, the Cookie Monster gave the little boy a big kiss. These actions, one aggressive and potentially frightening to the child, the other loving and friendly, comprise the dual character of the Cookie Monster. Children who view Sesame Street with any regularity see, even if they do not understand, that his love of cookies and his love of people and fellow muppets are comparable. Yet when asked to play back the role the Cookie Monster has in the story, children before the age of 4 years, 9 months displayed recall of only a single facet of his personality: one child played back only the kiss, the loving friendly aspect of the monster; the rest of the children played out only his aggressive taking of the cookies.

Given the complexity of human personality and of many televised characters, we can begin to realize the impact on story understanding that must result as long as characters are understood by younger children as uni-dimensional--either good or bad, mean or friendly--rather than in terms of the complexities of human nature as we know them. Characters can be momentarily angry and then friendly. At one moment they are hateful; in the next nearly loveable. The fact that the child nearing 5 can modify

these polarities does not indicate that he prefers to do so. Note, for instance, the increased attention after the age of 4 to cartoon material in which characters typically embody only a single personality trait.

Conclusion

Narrative vs. Medium Skills

By means of an intensive case study, we have chronicled children's apprehension of a televised story through the early childhood years. We have outlined several aspects of children's narrative abilities which appear to be independent of the medium of presentation. In addition, our study suggests several medium-specific factors which influence young viewers. We still cannot be certain whether television impedes or accentuates children's narrative understanding or whether, in light of children's limited narrative abilities, the medium of presentation has significant bearing on comprehension. While no single study can resolve these issues, a review of our findings, in the light of other research on children's apprehension of narrative, provides some suggestions.

Children's narrative competence. A central finding of this research is that children sense certain interpersonal conflicts from an early age, particularly when monsters are involved. As children grow older, they become increasingly sensitive to conflicts embedded in a story. This pattern of apprehension might be less evident in a narrative in which conflicts are less explicitly presented, and may be especially highlighted through the multi-sensory impact of television.

In this study, a child's prior knowledge and experience with a character also appears to be highly influential in their narrative apprehension. This finding is consistent with our impression that television encourages the development and perpetuation of stereotypes.

While prior knowledge from other sources appears to be employed by children, repeated exposure to a single narrative on television does not assure a competent grasp of that narrative. In fact, repeated exposure appears to provide preschoolers with little additional information from month to month. Only over a period of nine to eighteen months did children add any significant narrative complexity to their story reconstructions. This result might be due to the complexity of the particular story selected or may reflect a slow accumulation of insight despite repeated televised presentations.

The difficulties many children had in reconstructing the narrative raises the issue of how the television medium affects children's symbolic play. It is possible that children exposed to a narrative in television have more difficulty in story reconstruction than those exposed to that same narrative in the book medium, possibly because television encourages a passive stance vis-à-vis a presentation.

Children's medium competence. Our primary source of information with respect to preschoolers' medium competence comes from an investigation of various production features. Children benefit in their recall of characters who appear in close-up shots. The duration of the visual appearance of characters, however, particularly at the younger ages, does not correspond to increased recall. Increased volume affects recall as does decreased pace of presented dialogue. Not surprisingly, statements repeated in the narrative are also the most faithfully recalled.

Finally, while it is possible that preschoolers, as a group, show a proclivity to either the audio or video portions of a presentation, our findings suggest the nature of specific segments determines which modality of perception is harnessed.

Final Note

The study suggests the difficulties preschoolers must encounter in making sense of longer narratives not specially produced for them. We do not wish to suggest that young children fail to benefit from viewing a televised array of objects and events which provide information for exploration and comparison with their own daily experience. However, caution must be exercised in making assumptions about the amount and quality of their understanding.

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Harvard Project Zero is a basic research program at the Harvard Graduate School of Education. Its original charge was to study creation and comprehension in the arts and means toward better art education. A prime objective throughout the Project's history has been to provide a sound theoretical and experimental base for effective education of artists and audiences. The Project began in the fall of 1967 in response to the frank admission that, however much is known about how to educate in science and how to evaluate scientific work, practically nothing is known about the underlying principles of how to teach and evaluate in art. From that challenging "zero" the Project took its name and tasks. Our research methods include rigorous conceptual analysis, investigation of relevant literature, design and execution of key experiments in psychology and other fields, visits to arts education institutions, and application of results to proposing and assessing programs in art education.

Project founder and former director Nelson Goodman's book Languages of Art (Bobbs-Merrill, 1968) has provided important direction in our effort to isolate and investigate basic skills. This work sets forth a "theory of symbols," a broad treatment of elements of communication, embracing words, gestures, diagrams, paintings, poems, musical scores, and so on. Almost all the psychological processes under consideration in our studies of the arts involve extensive operation with and upon symbols of various kinds. These symbols are not merely instruments of communication, but also instruments of cognition, tools in terms of which the mind deals with the perceptual world.

Some of our research has examined the psychological implications of the theoretical models of symbol systems introduced in Languages of Art. For instance, one question is whether different information processing skills are necessary to produce effective art within linguistic, versus nonlinguistic, symbol systems. Another, complementary approach emphasizes problem solving and search strategies in the moment-to-moment perception and production of a work of art. How do subjects search for rhyme words in poetry or explore alternative placements of pieces in collage? A favorite means of developing and testing new models is through the study of errors. By using impoverished or ambiguous stimuli, assigning tasks somewhat too difficult for a subject, or working with brain-damaged subjects, one can elicit patterns of error-making which suggest hypotheses and select between alternative models of a process. These approaches characterize many of the Project's investigations mentioned below in a list of Project members and their particular interests.

Though the development of actual curricula in arts education is not a primary concern, the Project does contribute to the field of practical education. Project members have responded to inquiries and requests to comment on curricula from teachers in the field. Establishment of Harvard Summer School's Institute in Arts Administration resulted from the Project's reply to an inquiry from the director of the Harvard Summer School, and members of the Project staff cooperated in planning the Institute, in preparing material, and in the actual teaching. Consideration consultation has been provided to schools, museums, television, and a variety of arts institutions by members of the Project.

The Project has also sponsored a series of lecture-performances in various media, designed to give the general public and prospective public school teachers and administrators better insight into and attitudes towards artists and the arts. As the series title "Art in the Making" suggests, the purpose of the lecture-demonstrations was to reveal something of the artist's way of working, rather than to display his products. In the presence of an audience free to ask questions, each artist explored alternatives, exposed some constraints of his medium, compared his various efforts, and searched for the right effect, choice by choice.

While maintaining a major concern with the arts and art education, the Project, under its current co-directors, has considerably broadened its field of inquiry and now investigates a whole range of topics in the area of cognitive psychology. One part of the Project has focussed particularly on developmental studies. Among the topics currently being investigated are the emergence of symbolic capacities during the first years of life; the development of literary abilities, specifically the capacity to produce and appreciate metaphors and stories; children's understandings of the various worlds presented on television; the emergence of drawing skills; and the breakdown of various symbol using capacities under various forms of brain damage. The other part of the Project has concentrated on studies in the areas of cognitive and perceptual psychology, ones which utilize both normal adult subjects and gifted artists. Among the topics investigated recently have been critical judgment and the sources of critical disagreement in adults; the thought processes of professional and amateur poets and painters in developing works; the role of geometric principles in visual perception and picture perception particularly; reasoning about everyday matters and the logical difficulties people encounter.

A list of recent papers which can be purchased from the Project is available upon request.